The listing of claims will replace all prior versions, and listing, of claims in the application:

LISTING OF CLAIMS

Claims 1-8. (Canceled)

Claim 9. (Currently Amended) A conductive polymer membrane article, having a conductivity selected from the group consisting of electrical, ionic, and photoelectric,

said article comprising:

a non-woven membrane of polymer fibers, wherein at least some of the fibers have diameters of less than one micron;

said polymer fibers are formed from a spin dope that include:

a matrix polymeric material, a conductive polymer and conducting nanoparticles,

said matrix polymeric material include a polymer selected from the group consisting of polyurethane (PU), polyethylene oxide (PEO), ~~polyacrylonitrile (PAN)~~, polylactic acid (PLA), polyvinyl acetate (PVA), and cellulose acetate,

said conductive polymer selected from the group consisting of ~~polyaniline, polypyrrole,~~ polythiophene, polyphenol, polyacetylene and polyphenylene, and

said nonwoven membrane has an electrical conductivity of at least about 10^{-6} S/cm~~, wherein said matrix polymeric material further includes a photo-reactive dye, said dye being selected from the group consisting of phthalocyanines, ruthenium complexes with organic ligands, porphyrins, and polythiophenes~~.

Claim 10. (Currently Amended) The conductive polymer membrane article of claim ~~9~~ 16 wherein the nonwoven membrane includes photonic absorption and is photoelectric.

Claim 11. (Previously Added) The conductive polymer membrane article of claim 10 wherein the nonwoven membrane produces a current of at least 10^{-9} amps/cm^2.

Claim 12. (Currently Amended) The conductive polymer membrane article of claim 9 wherein the conducting nanoparticles are embedded in the polymer fibers.

Claim 13. (Previously Added) The conductive polymer membrane article of claim 9 wherein the conductivity is created by the inclusion of the conducting polymer in said polymer fibers.

Claim 14. (Previously Added) The conductive polymer membrane article of claim 9 wherein the conductivity is created by the inclusion of conducting nanoparticles embedded in the membrane polymer fibers.

Claim 15. (New) The conductive polymer membrane article of claim 9 wherein said matrix polymeric material further includes a chemical indicator dye in a dimethyl formamide solution of polyurethane, said dye being selected from the group consisting of phenol red, thymol blue, and phenolphthalein; and wherein said indicator dye is added to the polyurethane solution at a level of 1-10 % by weight.

Claim 16. (New) The conductive polymer membrane article of claim 9 wherein said matrix polymeric material further includes a photo-reactive dye, said dye being selected from the group consisting of phthalocyanines, ruthenium complexes with organic ligands, and porphyrins.